In the Claims:

Please amend the claims as follows:

1. (Currently Amended) A method for decoding a noisy signal provided from the coordinates of a point in a ~~point constellation~~constellation of points, each constellation point being associated with a digital data item of a determined number of bits, comprising the steps of:

determining, based on the noisy signal, components of a received point;

determining a reference point associated with a digital reference data item and corresponding to the ~~constellation point~~point in the constellation of points closest to the received point;

determining at least one concurrent point corresponding to the ~~constellation point~~point in the constellation of points closest to the reference point associated with a digital data item, having a bit of determined rank with a logic value opposite to the bit of determined rank of the reference data; and

determining, at least for the bit of the reference digital data at said determined rank, a precision data item based on the received point, the reference point, and the concurrent point,

wherein the determination of the bits of the digital data associated with the concurrent point is performed based on the values of some of the bits of the reference digital data and on said rank.

2. (Currently Amended) The method of claim 1, wherein the ~~constellation points~~points in the constellation of points for which the bits of the digital data associated with the determined rank have a determined logic value are distributed in at least one set of juxtaposed points symmetrical ~~with respect to the axis or the other one of two reference axes (X, Y) of the constellation~~with respect to one or the other of two reference axes.

3. (Currently Amended) The method of claim 1, wherein for successive ranks, the ~~constellation points~~points in the constellation of points for which the bits of the digital data associated with said successive ranks have a determined logic value are distributed in at least one set of juxtaposed points symmetrical with respect to a same reference axis ~~(X, Y)~~ of the constellation.

4. (Original) The method of claim 1, wherein the constellation is a Gray constellation.

5. (Original) The method of claim 1, wherein the constellation is a quasi-Gray constellation.

6. (Original) The method of claim 1, wherein the noisy signal is provided by a quadrature amplitude modulation.

7. (Currently Amended) A decoding device comprising:

a means for receiving a noisy signal provided from the coordinates of a point of a ~~point constellation~~constellation of points, each point in the constellation being associated with a digital data item of a determined number of bits;

a means for determining based on the noisy signal components of a received point;

a means for determining a reference point associated with a reference digital data item and corresponding to the ~~constellation point~~point in the constellation of points closest to the received point;

a means for determining at least one concurrent point corresponding to the ~~constellation point~~point in the constellation of points closest to the reference point associated with a digital data item, having a bit at a determined rank with a logic value opposite to the bit at the same determined rank of the reference data; and

a means for determining, at least for the bit of the reference digital data at the determined rank, a precision data item based on the received point, on the reference point, and on the concurrent point

wherein the means for determining the at least one concurrent point comprises a means for determining bits of the digital data associated with the concurrent point based on the values of some of the bits of the reference digital data and on the determined rank.

8. (Currently Amended) A method for decoding a received point to a corresponding point in a ~~point constellation~~constellation of points, the received point and each point in the constellation having a number of bits, the method comprising:

determining a reference point corresponding to the point in the constellation that is nearest the received point;

determining at least one concurrent point corresponding to the ~~constellation point~~point in the constellation of points nearest the reference point having a selected bit that is the complement of the corresponding bit of the reference point, with the bits of the concurrent point being determined as a function of the bits in the reference point and a rank associated with the selected bit; and

determining a decoded point corresponding to the decoded received point, the decoded point being determined as a function of received point, the reference point, and the concurrent point.

9. (Currently Amended) The method of claim 8 wherein the ~~point constellation~~point in the constellation of points comprises a Gray or quasi-Gray constellation.

10. (Original) The method of claim 8 wherein the received point corresponds to a point derived from a received quadrature amplitude modulated signal.

11. (Currently Amended) A method for decoding a received point ~~determining a concurrent point~~ in a modulation technique including a ~~point constellation~~constellation of points, the method comprising:

determining a reference point in the constellation of points; and

determining at least one concurrent point without performing any distance calculations; and

determining a decoded point as a function of the received point, reference point, and concurrent point.

12. (Original) The method of claim 11 wherein determining at least one concurrent point without performing any distance calculations comprises determining at least one concurrent point corresponding to a point in the constellation that is nearest the reference point and that has a selected bit that is the complement of the corresponding bit of the reference point, with the bits of the concurrent point being determined as a function of the bits in the reference point and a position of the selected bit.

13. (Original) The method of claim 11 wherein the point constellation comprises a Gray or quasi-Gray constellation.

14. (Original) The method of claim 11 wherein the modulation technique comprises quadrature amplitude modulation.

15. (Currently Amended) A decoding device, comprising:

a receiver adapted to receive a modulated signal and operable to generate a received data word from the modulated signal, the received data word having a number of bits;

a reference data word generator coupled to the receiver and operable to generate a reference data word derived from the received data word and a ~~point constellation~~constellation of points;

a concurrent data word generator coupled to the reference data word generator and operable to generate at least one concurrent data word point as a function of the bits in the reference data word and a position of a selected bit in the reference data word; and

a decoded word generator coupled to the receiver, reference data word generator, and concurrent data word generator, the decoded word generator operable to generate a decoded word as a function of received data word, the reference data word, and the concurrent data word.

16. (Original) The decoding device of claim 15 wherein the decoding device is formed within an integrated circuit.

17. (Original) The decoding device of claim 16 wherein the integrated circuit comprises a modem.

18. (Currently Amended) An electronic system, comprising:

a decoding device including,

a receiver adapted to receive a modulated signal and operable to generate a received data word from the modulated signal, the received data word having a number of bits;

a reference data word generator coupled to the receiver and operable to generate a reference data word derived from the received data word and a ~~point constellation~~constellation of points;

a concurrent data word generator coupled to the reference data word generator and operable to generate at least one concurrent data word point as a function of the bits in the reference data word and a position of a selected bit in the reference data word; and

a decoded word generator coupled to the receiver, reference data word generator, and concurrent data word generator, the decoded word generator operable to generate a decoded word as a function of received data word, the reference data word, and the concurrent data word.

19. (Original) The electronic system of claim 18 wherein the electronic system comprises a computer system.

20. (Original) The electronic system of claim 19 wherein the decoding device is formed within an integrated circuit.